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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,453	02/06/2004	Koichi Kawamura	019519-417	6720

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EXAMINER

ZIMMERMAN, JOSHUA D

ART UNIT	PAPER NUMBER
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2854

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/772,453	Applicant(s) KAWAMURA, KOICHI	
	Examiner Joshua D. Zimmerman	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/764,128.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/07/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa (US 5,695,908) in view of Suzuki et al. (*Macromolecules* **1986**, 19, 1804-1808).

Regarding claim 9, Furukawa teaches "a method for producing a lithographic printing plate comprising (title):

reacting the ... surface [of a support] with a monomer containing a hydrophilic functional group to form an image-receiving layer having hydrophilicity and containing a polymer compound which ... has hydrophilic functional groups capable of forming chelates together with metal ions (column 3 line 66 through column 4 line 4; column 11, lines 16-19); and

ejecting an ink containing metal ions to the image-receiving layer with an inkjet recording method to form an image on the image-receiving layer (column 11, lines 42-47)."

Furukawa fails to specifically teach the step of "treating a surface of a support to produce radicals at the surface," nor does Furukawa teach that the polymer "has a direct chemical bond to the surface of the support." However, Suzuki et al. teach a

method of graft copolymerization for grafting acrylic polymers onto the surface of polyethylene films in order to firmly adhere the acrylates to the substrate, which converts the surface to a hydrophilic one, and also results in an increased and more sustained hydrophilicity over normal plasma hydrophilization treatments (abstract, figure 11). The process involves using plasma treatment which produces radicals at the surface (see, for example, formula 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the graft copolymerization method of Suzuki et al. to graft the hydrophilic polymer of Furukawa to the support in order to produce a printing plate which has stable hydrophilic properties (that is, it has good shelf-life) and also has good adhesion between the substrate and the imaging layer.

Regarding claim 10, Furukawa further teaches "wherein the hydrophilic functional group capable of forming chelates together with metal ions is selected from the group consisting of carboxylic acid group, a sulfonic acid group, an amino group, a hydroxyl group, and an active methylene group and a salt thereof (column 4, lines 60-67, formulas A and B, and column 5, line 54)."

Regarding claim 11, Furukawa further teaches "wherein the support surface is subjected to surface roughening (column 10, lines 62-column 11, line 13)."

Regarding claim 12, Furukawa further teaches "wherein the image-receiving layer has a thickness of from 0.01 to 10 g/m² (column 16, lines 4-7)."

Regarding claim 13, Furukawa further teaches "wherein the image-receiving layer has a thickness of from 0.1 to 5 g/m² (column 16, lines 4-7)."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Zimmerman whose telephone number is 571-272-2749. The examiner can normally be reached on M-R 8:30A - 6:00P, Alternate Fridays 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua D Zimmerman
Examiner
Art Unit 2854

jdz


JUDY NGUYEN
SUPERVISORY PATENT EXAMINER